

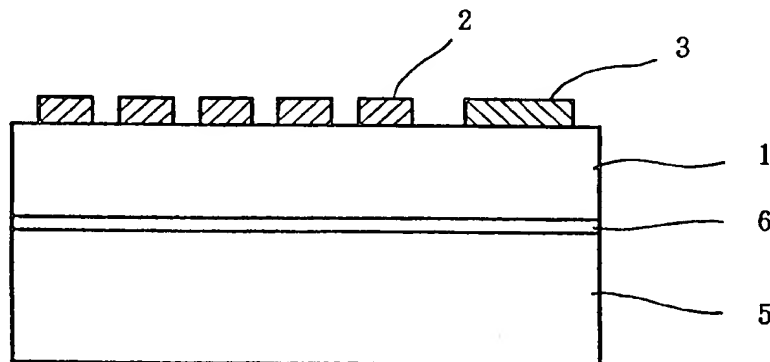
Abstract Of The Disclosure

A semiconductor light receiving element having a light receiving layer (1) formed from a GaN group semiconductor, and an electrode (2) formed on one surface of the light receiving layer as a light receiving surface (1a) in such a way that the light (L) can enter the light receiving layer is provided. When the light receiving element is of a Schottky barrier type, the aforementioned electrode (2) contains at least a Schottky electrode, which is formed in such a way that, on the light receiving surface (1a), the total length of the boundary lines between areas covered with the Schottky electrode and exposed areas is longer than the length of the outer periphery of the light receiving surface (1a). In addition, when the light receiving element is of a photoconductive type, the aforementioned light receiving layer (1) is a first conductivity type i layer, and the aforementioned electrode (2) is an ohmic electrode of one polarity, and an ohmic electrode of the other polarity is formed directly or via a first conductivity type and low resistance GaN group semiconductor layer on the other surface of the light receiving layer (1).

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<p>(21) 国際出願番号 PCT/JP99/04993</p> <p>(22) 国際出願日 1999年9月13日(13.09.99)</p> <p>(30) 優先権データ 特願平10/265505 1998年9月18日(18.09.98) JP 特願平10/265516 1998年9月18日(18.09.98) JP</p> <p>(71) 出願人 (米国を除くすべての指定国について) 三菱電線工業株式会社 (MITSUBISHI CABLE INDUSTRIES, LTD.)(JP/JP) 〒660-0856 兵庫県尼崎市東向島西之町8番地 Hyogo, (JP) 株式会社 ニコン(NIKON CORPORATION)(JP/JP) 〒100-8331 東京都千代田区丸の内3丁目2番3号 Tokyo, (JP)</p> <p>(72) 発明者 ; および (75) 発明者 / 出願人 (米国についてのみ) 只友一行(TADATOMO, Kazuyuki)(JP/JP) 岡川広明(OKAGAWA, Hiroaki)(JP/JP) 大内洋一郎(OUCHI, Yoichiro)(JP/JP) 湖東雅弘(KOTO, Masahiro)(JP/JP) 〒664-0027 兵庫県伊丹市池尻4丁目3番地 三菱電線工業株式会社 伊丹製作所内 Hyogo, (JP)</p>		<p>平松和政(HIRAMATSU, Kazumasa)(JP/JP) 〒510-0822 三重県四日市市芝田1丁目4番22号 Mie, (JP) 濱村 寛(HAMAMURA, Yutaka)(JP/JP) 〒228-0828 神奈川県相模原市麻溝台1丁目10番1号 株式会社 ニコン 相模原製作所内 Kanagawa, (JP) 清水澄人(SHIMIZU, Sumito)(JP/JP) 〒140-8601 東京都品川区西大井1丁目6番3号 株式会社 ニコン 大井製作所内 Tokyo, (JP)</p> <p>(74) 代理人 高島 一(TAKASHIMA, Hajime) 〒541-0046 大阪府大阪市中央区平野町三丁目3番9号 (湯木ビル) Osaka, (JP)</p> <p>(81) 指定国 CA, KR, US, 欧州特許 (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE)</p> <p>添付公開書類 国際調査報告書</p>

(54)Title: SEMICONDUCTOR PHOTODETECTOR

(54)発明の名称 半導体受光素子



(57) Abstract

A semiconductor photodetector comprising a photodetecting layer (1) made of a GaN semiconductor and an electrode (2) so provided light (L) can be incident on a light-detecting surface (1a) which is one side of the photodetecting layer (1). If the photodetector is of Schottky barrier type, the electrode (2) includes a Schottky electrode so provided that the total length of the boundary line between the portion covered with the Schottky electrode of the photodetecting surface (1a) and the portion exposed is longer than the outer periphery of the photodetecting surface (1a). If the photodetector is of photoconductive type, the photodetecting layer (1) is an i layer of first conductivity type, the electrode (2) is an ohmic electrode of one polarity, and an ohmic electrode of the other polarity is provided on the other side of the photodetecting layer (1) directly or through a low-resistance GaN semiconductor layer of first conductivity type.